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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/811,309
Filing Date: March 29, 2004
Appellant(s): RICHARDSON ET AL.

Joseph A. Rhoa (Reg. No. 37,515)

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 14, 2010 appealing from the Office action mailed December 30, 2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

10/960,289

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-7, 12-18, and 21-23 are finally rejected and pending appeal.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading “WITHDRAWN REJECTIONS.” New grounds of rejection (if any) are provided under the subheading “NEW GROUNDS OF REJECTION.”

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant’s brief.

(8) Evidence Relied Upon

6,682,773	MEDWICK	1-2004
6,602,608	STACHOWIAK	8-2003
5,254,201	KONDA	10-1993

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1-7, 12-18, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stachowiak (US 6,602,608) in view of Medwick (US 6,682,773) and Konda (US 5,254,201).

Stachowiak teaches a multi-layered low-E reflective film (Table 1, Figure 1) comprising at least one infrared reflecting layer with silver “sandwiched” between at least a first and second dielectric layer. The reference teaches that the layers are deposited by a sputter coating process (Column 5, lines 57-67), that the uppermost layer of the coating comprises Silicon Nitride, that it is known to heat treat said coated articles (e.g., thermally temper, heat bend or the like) (column 2, Lines 58-63), and finally to incorporate said sheets into “architectural windows (e.g. IG units)”. The instant

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reference clearly indicates that the disclosed thin film structure will have a transmission of at least 65% through at least 80% on occasion (Column 6, Lines 51-53). Stachowiak is silent regarding the subsequent processing of the Low-E glass sheet after thin film deposition or regarding the application of a removable, protective coating to the substrate.

In accord with applicants disclosed (prior art) figure 1, it is also understood to be well known and established in the art to coat the Low-E glass substrate with a protective film and to subsequently cut, edge seam, and wash the coated substrate. This assertion is corroborated by the teachings set forth by Medwick (US 6,682,773) which indicates that “for substrates with one or more functional coatings (e.g. a functional coating on the first surface) the protective coating is preferably deposited over at least a portion of the functional coating(s) to protect the functional coating(s) from mechanical and/or chemical damage and/or misidentification during shipment, storage, handling, and processing” (Column 3, Lines 15-21). The reference continues by specifically citing the need to protect the functional coating on Insulated Glass (IG) units from marring or damage during processing, shipment or storage (column 1, Lines 40-45). Finally, the instant reference teaches that it is beneficial to alter the color of the coating in any manner deemed appropriate to clearly and easily identify the nature of the coating on the glass substrate (including altering the coating to a green tint) (Column 12, Lines 6-55). By applicants admitted prior art and the teachings set forth by Medwick, it would have been obvious to one of ordinary skill in the art to apply a protective film to the IG substrate prior to cutting, edge seaming, and washing said substrate in order to

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appropriately protect the functional surface from damage or marring. The combined Medwick and Stachowiak still fail to explicitly set forth the application of a flexible solid film comprising polyethylene with an adhesive layer comprising acrylic as the protective film.

Konda (US 5,254,201) teaches that a preformed and solid protective sheet having excellent water resistance can be made form polyethylene (column 3, Lines 21-28) with a pressure-sensitive adhesive layer of an acrylic type (Column 3, Line 46). The instant reference continues by disclosing the application of this protective sheet to a semiconductor wafer to prevent damage to the thin film circuit pattern printed on the surface thereof during grinding and/or polishing procedures performed on the wafer (Column 1, Lines 15-58). It further indicates that when the presence of the film is no longer deemed necessary, it can be directly stripped from the surface of the substrate either by hand or machine. The immediate reference is considered to be analogous prior art for the claimed subject matter since the disclosed film is applied to a substrate in such a manner to protect the fine structure of a film formed thereon from damage or marring. It would therefore have been obvious to one of ordinary skill in the art of thin film processing to utilize the solid film set forth by Konda as the protective film collectively taught by the Medwick and Stachowiak references. This would be an obvious substitution for the Medwick film taught above since the pressure sensitive adhesive in the Konda film allows simple removal of the film by machine or by hand when its presence is no longer required.

(I) The prior art is silent regarding a flexible protective sheet having a thickness of 1mm to 3mm

Applicant acknowledges that Konda teaches use of a flexible protective sheet having a thickness of 20 to 200 micrometers (see Applicants reply, page 10) and that Medwick teaches protective film thicknesses of 1 to 250 micrometers (see Applicants reply, page 9), however the prior art of record is silent regarding a flexible protective sheet having a thickness in the range of 1 mm to 3 mm as recited in independent claims 1 and 12

(II) Applicants disclosed protective sheet thickness is encompassed by Konda and Medwick and the recited sheet thickness would have been obvious in view of the ordinary level of skill in the art at the time of the invention.

Applicant's protective sheet thickness range is construed to be limited to a thickness of 1 to 3 Mils or ~ 25.4 to ~76.2 microns in thickness which is clearly consistent both with Applicants original disclosure and Applicants preferred embodiments as noted above. The sheet thickness ranges disclosed by both the Konda and Medwick references wholly encompass Applicants disclosed thickness ranges as well as the sheet thickness of Applicants preferred embodiment.

Further, one of ordinary skill in the art at the time of the invention would have viewed the use of a thicker protective film as a merely routine and obvious extension over the prior art teachings. That is, one having no more than a rudimentary level of skill in the art at the time of the invention would recognize that increasing the thickness

of the protective sheet used would predictably enhance the scratch resistance of the underlying substrate during handling. Absent compelling evidence of unexpected results, it is the Examiners assessment specification of an appropriate protective film thickness would have fallen well within the purview of a skilled technician that that use of a thicker protective film within Applicants recited range would have yielded a wholly predictable increase in scratch resistance for the substrate.

It is therefore the Examiners assessment that the use of a protective film having a thickness in the range of 1000 to 3000 microns is insufficient to patentably distinguish the recited invention over that disclosed in the collective prior art.

Regarding Applicant's claims 21 and 22, none of the cited prior art references explicitly limit the substrate temperature to fall between 60-120°C or 90-120°C as required in the respectively identified claims. With this point in mind, it is the Examiners position that the claimed temperature ranges are insufficient to patentably distinguish the claimed invention over that set forth in the collective prior art.

Applicant's specification indicates that the claimed temperature range naturally flows from the deposition of the Low-E coating process (paragraph [0038], pages 10-11). One of ordinary skill in the art at the time of the invention would have recognized the benefit to applying the protective sheet in as expedient a timeframe as possible after formation of the Low-E coating, namely as a means to minimize the potential for surface contamination. The skilled practitioner would have likewise been well aware that

application of the protective sheet on a substrate of too high a temperature would result in potentially irreversible damage to either the organic adhesive and/or polyethylene backing sheet. In view of the foregoing and absent any evidence of unexpected results to the contrary, it is the Examiners position that the claimed substrate temperature ranges would have been derived by the skilled practitioner through no more than routine experimentation and optimization of the prior art disclosed process.

(10) Response to Argument

Argument #1)

Applicant alleges (see Appeal Brief, page 13, paragraph 1) that Stachowiak “contains no motivation to modify its glass substrate based on Medwick's protective coating”.

In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

In the instant case, Applicant was advised that the motivation to apply protective films to at least the functional surface of low-E type glass substrates is explicitly provided by Medwick (see Pages 3-4, Official Action dated December 30, 2009).

Applicant is advised that the rejection of claims are based upon the combined teachings of Stachowiak and Medwick and Konda under 35 U.S.C. 103(a) while the instant arguments appear to be directed exclusively against the Stachowiak reference. It follows, in response to applicant's arguments against the Stachowiak reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Argument #2)

Applicant asserts (see Appeal Brief, page 13, paragraph 1; page 15, last paragraph) that the alleged combination of references fails to meet all of the features of claim 1. Specifically, Applicant alleges that in the claimed invention, the protective sheet of claim 1 is removed subsequent to washing.

Applicant asserts that Medwick does not disclose this limitation. Applicant further admits that Konda does disclose removal of the protective film after machining the protected substrate to desired specification, however Applicant asserts that, since Konda relates to a semiconductor substrate, the reference is unrelated to protecting a low-E substrate.

In response, Applicant is respectfully directed to Medwick which teaches in pertinent part that the protective coating is retained through the cutting and scoring of the protected low-E substrate and subsequently removed during a washing step (see col. 11, lines 26-60). Further, Applicants' own admitted prior art acknowledges (see original Specification Figure 1) that it is known to wash the substrates after cutting and/or edge seaming of the sheets. Finally, Konda teaches removal of the protective film only after completing the mechanical processing of the brittle substrates in order to protect the delicate thin film structure on the substrate (Col. 1, lines 16-58). Applicant was thereby advised that, in view of the collective prior art, one of ordinary skill in the art would have found it obvious to remove the Konda protective sheet only after completing the processing (e.g. edge seaming, cutting, scoring, and washing) of the substrate (see page 3-4 of the Official Action dated December 30, 2009).

Further, in response to applicant's argument that Konda is nonanalogous art because the reference is directed to protecting thin film structures on semiconductor substrates, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In the instant case, Applicant was explicitly advised (see page 5 of the Official Action dated December 30, 2009) that Konda constitutes analogous art to Medwick and by extension to Stachowiak at least insofar as the Konda disclosed film is applied to the protection of a thin film structure on refractory and brittle substrates for the express purpose of preventing marring of or damage to the thin film during cutting, scoring, and/or abrasion of the substrate. Stated alternately, both Medwick and Konda share a common goal, namely to prevent the marring of a delicate thin film structure on a refractory substrate. Although the composition of the Medwick and Konda substrates may arguably differ, Applicant will appreciate that application of a known product (e.g. the Konda protective film) to a known substrate (e.g. the Stachowiak/Medwick low-E glass) ready for improvement in a similar manner and to a similar effect is *prima facie* obvious in view of the ordinary level of skill in the art at the time of the invention.

Argument #3)

Applicant alleges (see Appeal Brief, page 13, paragraph 2) that neither Stachowiak nor Medwick teach application of flexible protective sheet via an adhesive layer to form a protected coated article nor peeling the protective sheet off of the top surface of the low-E coating to form an unprotected coated article. Further, Applicant asserts that Medwick teaches away from peelable protective sheets and thereby concludes that one skilled in the art would not look to Konda to modify the Stachowiak/Medwick combination. In support of this position, Applicant points to col. 2, lines 21-27 of Medwick which states in part that “the solid peeled film must be properly

disposed of. Further, considerable time is required to peel the coating completely off of the substrate."

In response, Applicant is preliminarily advised that solving any and/or all of the prior art recognized deficiencies such as those briefly mentioned in the background of the Medwick reference is in no manner a prerequisite to establish a *prima facie* case of obviousness. With respect to this matter, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Applicant was advised that a skilled practitioner would look to the Konda protective film since this reference explicitly teaches that the inventive film allows simple removal of the film by machine or by hand when its presence is no longer required. In addition, Applicant was previously advised that both Medwick and Konda share a common goal, namely to prevent the marring of a delicate thin film structure on a refractory substrate. Applicant was further advised that one having no more than an ordinary level of skill would recognize the applicability of Konda film protecting the Low E coatings of the Stachowiak and Medwick references.

To the Extent that Applicant asserts that Medwick teaches away from a combination with Konda, Applicant is respectfully advised that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments (MPEP 2123). Further, Applicant will appreciate that a known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use. In the instant case, Medwick in no manner precludes the use of a solid protective film for application to low-E type glass substrates. Further, as noted above, Konda presents a compelling motivation for one of ordinary skill to employ the disclosed protective film, namely ease of removal and efficacy towards protection of delicate film structures on refractory substrates.

In short, the mere observation that Medwick acknowledges a sub-optimal trait of a generic, solid protective film does not constitute a teaching away from use of the Konda film particularly where Konda explicitly denotes other beneficial traits which would lead a skilled practitioner to such a combination. It follows that Applicants arguments purporting that Medwick teaches away from a combination with Konda are held to be unpersuasive.

Argument #4)

Applicant alleges that the Medwick and Konda substrates are “vastly different in size and in application”. Applicant continues by asserting that “there is no indication in

Konda that it could be used for a significantly larger scale operation. Applicant further purports that;

- 1) the Konda protective sheet "would not be subject to the same problems disclosed by Medwick with respect to peelable coatings for much larger substrates (Appeal Brief page 14, second paragraph),
- 2) that Application of the Konda film to the Stachowiak/Medwick combination "simply would not work" (Appeal Brief page 14, last paragraph),
- 3) that, concerning the Medwick and Konda films (Appeal Brief, page 15, first paragraph), "application and removal of these respective protective coatings will vary greatly at least because of the significant difference in substrate size and substrate compositions and coatings thereon",
- 4) that the Konda films are "specifically known to not scale well and present removal problems" (Appeal Brief, page 15, first paragraph)

In response, neither Medwick nor Konda nor Stachowiak provide express or implicit limitations upon the size of the substrate under treatment. Further, Applicant is advised that changes in size, shape, or proportion are *prima facie* obvious where such a modification would be expected to yield a substantially predictable result (see MPEP 2144.04). In the instant case, the mere act of scaling a protective film such as that disclosed by Konda to either larger or smaller dimensions in order to fulfill the dimensions of a desired application is well within the purview of a skilled practitioner in the arts. Therefore, the mere scaling of the Konda protective film for application to a

Medwick substrate does not establish patentability absent compelling evidence that the Konda materials are precluded from such a scaling.

In addition, to the extent that Applicant alleges among other things (see bullets (1) through (4) above) that the Konda materials “simply would not work” and that said films are “specifically known not to scale well and present removal problems”, Applicant has provided no evidence on the record to support the instant allegations that the Konda materials are either excluded from or inoperative for the protection of low-E glass sheets such as those set forth by Medwick and Stachowiak. Since Applicant has provided no conclusive evidence in support of the instant allegations, it follows that said allegations are held to be mere conjecture and attorney argument.

The Official policy regarding Attorney argument is clearly outlined in MPEP §2145 [R-3];

“Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 and § 2144.03 for a discussion of admissions as prior art. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) (“An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness.”). See MPEP § 716.01(c) for examples of attorney statements which are not evidence

and which must be supported by an appropriate affidavit or declaration.

(11) Related Proceeding(s) Appendix

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jason L Lazorcik/

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